

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 (Currently amended): A screen for cleaning a fiber suspension, the screen comprising:

a housing;

a rotor disposed within the housing;

a screen basket disposed between the housing and the rotor, the screen basket defining a plurality of separation units, the rotor extending axially through all of the separation units, the rotor including a rotor segment disposed within each of the separation units, each rotor segment extending axially from an area of minimum rotor diameter to an area of maximum rotor diameter and defining a substantially parabolic shape adapted to the flow conditions in the associated separation unit;

an accept chamber disposed between the screen basket and the housing;

a reject outlet disposed adjacent the area of maximum rotor diameter of at least one of the rotor segments; and

at least one device for interrupting axial flow disposed adjacent the area of maximum rotor diameter of one of the rotor segments, the at least one device for interrupting axial flow comprising at least one axial flow interruption ring.

2 (Currently amended): The A screen of claim 1 screen for cleaning a fiber suspension, the screen comprising:

a housing;

a rotor disposed within the housing;

a screen basket disposed between the housing and the rotor, the screen basket defining a plurality of separation units, the rotor extending axially through all of the separation units, the rotor including a rotor segment disposed within each of the separation units, each rotor segment extending axially from an area of minimum rotor diameter to an area of maximum rotor diameter and defining a substantially parabolic shape adapted to the flow conditions in the associated separation unit;

an accept chamber disposed between the screen basket and the housing;

a reject outlet disposed adjacent the area of maximum rotor diameter of at least one of the rotor segments; and

at least one device for interrupting axial flow disposed adjacent the area of maximum rotor diameter of one of the rotor segments;

wherein the at least one device for interrupting axial flow is mounted to the housing or to the screen basket.

3 (Original): The screen of claim 1 wherein the at least one device for interrupting axial flow is mounted to the rotor.

4 (Canceled)

5 (Currently amended): The screen of claim 4 1 wherein the at least one flow interruption ring is adjustable.

6 (Currently amended): The screen of claim 4 1 wherein the at least one flow interruption ring includes an outer diameter having a toothed profile.

7 (Previously presented): The screen of claim 1 wherein at least one separation unit further comprises at least one inlet for dilution water, the at least one inlet being located adjacent the reject outlet.

8 (Original): The screen of claim 7 wherein the at least one inlet is mounted on the housing or on the screen basket.

9 (Original): The screen of claim 7 wherein the at least one inlet is mounted on the rotor and fed through a pipe mounted inside the rotor.

10 (Original): The screen of claim 7 wherein the at least one inlet is directed such that the dilution water is fed in the running direction of the rotor.

11 (Original): The screen of claim 7 wherein the at least one inlet is directed such that the dilution water is fed in an opposite direction to the running direction of the rotor.

12 (Currently amended): The A screen of claim 7 for cleaning a fiber suspension, the screen comprising:

a housing;

a rotor disposed within the housing;

a screen basket disposed between the housing and the rotor, the screen basket defining a plurality of separation units, the rotor extending axially through all of the separation units, the rotor including a rotor segment disposed within each of the separation units, each rotor segment extending axially from an area of minimum rotor diameter to an area of maximum rotor diameter and defining a substantially parabolic shape adapted to the flow conditions in the associated separation unit, at least one separation unit further comprising at least one inlet for dilution water, the at least one inlet being located adjacent the reject outlet and being coupled to the at least one device for interrupting axial flow;

an accept chamber disposed between the screen basket and the housing;

a reject outlet disposed adjacent the area of maximum rotor diameter of at least one of the rotor segments; and

at least one device for interrupting axial flow disposed adjacent the area of maximum rotor diameter of one of the rotor segments.

13 (Previously presented): The screen of claim 1 wherein at least one separation unit further comprises a deflaking unit.

14 (Original): The screen of claim 13 wherein the deflaking unit includes at least one ring mounted on the housing, on the screen basket, or on the rotor.

15 (Canceled)

16 (Previously presented): The screen of claim 1 wherein each separation unit has a height and the height of a one of the separation units is at least twice the sum of the heights of all of the separation units axially below the one separation unit.

17 (Previously presented): The screen of claim 1 wherein each separation unit includes at least one device for interrupting axial flow.

18 (Previously presented): The screen of claim 1 wherein each separation unit further comprises at least one inlet for dilution water, the at least one inlet being located adjacent the reject outlet.

19 (Previously presented): The screen of claim 1 further comprising a deflaking unit.

20 (Original): The screen of claim 5 wherein the at least one flow interruption ring is an iris diaphragm.

21 (Original): The screen of claim 19 wherein the screen has first, second and third separation units and the deflaking unit is disposed intermediate the second and third separation units.